

CLAIMS

1. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme
5 Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that
the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a
10 pretreatment and
extracted liquid as an analytical sample is analyzed.
2. An analysis method for coenzyme Q-10 and a
15 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that
the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is
20 extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment and
extracted liquid as an analytical sample is analyzed.
- 25 3. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that
the specimen comprising at least one of the
30 coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,
extracted liquid as an analytical sample is

analyzed, and

the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is
5 analyzed.

4. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a
10 specimen, characterized in that

the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,

15 extracted liquid as an analytical sample is analyzed, and

the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is
20 analyzed.

5. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a
25 specimen, characterized in that

the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,

30 extracted liquid as an analytical sample is analyzed, and

a preparatory treatment for condensing the analytical sample according to a column switching method

is performed.

6. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment, extracted liquid as an analytical sample is analyzed, and a preparatory treatment for condensing the analytical sample according to a column switching method is performed.

7. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment, extracted liquid as an analytical sample is analyzed, the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is analyzed, and a preparatory treatment for condensing the analytical sample according to a column switching method is performed.

8. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,
extracted liquid as an analytical sample is analyzed,

the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is analyzed, and

a preparatory treatment for condensing the analytical sample according to a column switching method is performed.

9. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,

extracted liquid as an analytical sample is analyzed,

extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

the coenzyme Q-10 and the 2-electron reduced

form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

5 10. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

10 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,

 extracted liquid as an analytical sample is analyzed,

15 extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

 the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

25 11. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

30 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,

 extracted liquid as an analytical sample is analyzed,

 the extracted liquid is stored at a temperature

within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is analyzed,

5 extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

 the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a
10 detector.

12. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a
15 specimen, characterized in that

 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,

20 extracted liquid as an analytical sample is analyzed,

 the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is
25 analyzed,

 extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

 the coenzyme Q-10 and the 2-electron reduced
30 form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

13. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

5 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,

 extracted liquid as an analytical sample is
10 analyzed,

 a preparatory treatment for condensing the analytical sample according to a column switching method is performed,

 extracted liquid from a specimen comprising both
15 the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

 the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a
20 detector.

14. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a
25 specimen, characterized in that

 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,

30 extracted liquid as an analytical sample is analyzed,

 a preparatory treatment for condensing the analytical sample according to a column switching method

is performed,

extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

5 the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

10 15. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

the specimen comprising at least one of the
15 coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent as a pretreatment,

extracted liquid as an analytical sample is analyzed,

20 the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is analyzed,

a preparatory treatment for condensing the
25 analytical sample according to a column switching method is performed,

extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

30 the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

16. An analysis method for coenzyme Q-10 and a 2-electron reduced form thereof which quantifies coenzyme Q-10 and a 2-electron reduced form thereof comprised in a specimen, characterized in that

5 the specimen comprising at least one of the coenzyme Q-10 and the 2-electron reduced form thereof is extracted with a water-soluble organic solvent comprising isopropyl alcohol as a pretreatment,

10 extracted liquid as an analytical sample is analyzed,

the extracted liquid is stored at a temperature within a range of a melting point of the extracted liquid through room temperature until the extracted liquid is analyzed,

15 a preparatory treatment for condensing the analytical sample according to a column switching method is performed,

20 extracted liquid from a specimen comprising both the coenzyme Q-10 and the 2-electron reduced form thereof is the analytical sample, and

the coenzyme Q-10 and the 2-electron reduced form thereof are separated by a column, further subjected to reduction treatment, and subsequently detected by a detector.

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17. An analysis system used for analysis of coenzyme Q-10 and a 2-electron reduced form thereof, comprising

30 a liquid-sending mechanism comprising a first series for liquid-sending an analytical sample with a first mobile phase and a second series for liquid-sending only a second mobile phase,

a switching mechanism for switching liquid-

sending routes for the mobile phases of the two series of the liquid-sending mechanism,

a condensation column for receiving the second mobile phase after the mobile phase of the first series is received so as to condense the analytical sample,

a separation column for receiving and separating liquid sent from the condensation column,

a reduction column for receiving and reducing liquid sent from the separation column, and

an electrochemical detector for detection-processing liquid sent from the reduction column.

18. An analysis system used for analysis of coenzyme Q-10 and a 2-electron reduced form thereof, comprising

a liquid-sending mechanism comprising a first series for liquid-sending an analytical sample with a first mobile phase and a second series for liquid-sending only a second mobile phase,

a switching mechanism for switching liquid-sending routes for the mobile phases of the two series of the liquid-sending mechanism,

a condensation column for receiving the second mobile phase after the mobile phase of the first series is received so as to condense the analytical sample,

a separation column for receiving and separating liquid sent from the condensation column,

a reduction column for receiving and reducing liquid sent from the separation column, and

an electrochemical detector for detection-processing liquid sent from the reduction column, and

further comprising an ultraviolet absorption detector as a detector.